and marked in accordance with the requirements of §§ 147.60 and 147.65 of this chapter.

[CGFR 67-83, 33 FR 1145, Jan. 27, 1968, as amended by CGD 84-044, 53 FR 7753, Mar. 10, 1988]

## § 193.15-25 Discharge outlets.

(a) Discharge outlets shall be of an approved type.

#### § 193.15-30 Alarms.

(a) Space normally accessible to persons on board while the vessel is being navigated which are protected by a carbon dioxide extinguishing system and are required to be fitted with a delayed discharge system other than paint and lamp lockers and similar small spaces. shall be fitted with an approved audible alarm which will be automatically sounded when the carbon dioxide is admitted to the space. The alarm shall be conspicuously and centrally located and shall be marked as required by §196.37-9 of this subchapter. Such alarms shall be so arranged as to sound during the 20-second delay period prior to the discharge of carbon dioxide into the space, and the alarm shall depend on no source of power other than the carbon dioxide.

## § 193.15-35 Enclosure openings.

- (a) Where mechanical ventilation is provided for spaces which are protected by carbon dioxide extinguishing systems provisions shall be made so that the ventilation system is automatically shut down with the operation of the system to that space.
- (b) Where natural ventilation is provided for spaces protected by a carbon dioxide extinguishing system, provisions shall be made for easily and effectively closing off the ventilation.
- (c) Means shall be provided for closing all other openings to the space protected from outside such space. In this respect, relatively tight doors, shutters, or dampers shall be provided for openings in the lower portion of the space. The construction shall be such that openings in the upper portion of the space can be closed off either by permanently installed means or by the use of canvas or other material which is normally carried by the vessel.

### §193.15-40 Pressure relief.

(a) Where necessary, relatively tight compartments such as refrigeration spaces, paint lockers, etc., shall be provided with suitable means for relieving excessive pressure accumulating within the compartment when the carbon dioxide is injected.

# § 193.15-90 Installations contracted for prior to March 1, 1968.

- (a) Installations contracted for prior to March 1, 1968, shall meet the following requirements:
- (1) Existing arrangements, materials, and facilities previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs, alterations, and replacements may be permitted to the same standards as the original installations. However, all new installations or major replacements shall meet the applicable requirements in this subpart for new installations.
- (2) The details of the systems shall be in general agreement with §§193.15–5 through 193.15–40 insofar as is reasonable and practicable, with the exception of §193.15–5(d) (1), (2), and (4), covering machinery spaces, etc., which systems may be installed in accordance with paragraphs (a) (3) through (6) of this section.
- (3) In boilerrooms, the bilges shall be protected by a system discharging principally below the floorplates. Perforated pipe may be used in lieu of discharge nozzles for such systems. The number of pounds of carbon dioxide shall be equal to the gross volume of the boilerroom taken to the top of the boilers divided by 36. In the event of an elevated boilerroom which drains to the machinery space, the system shall be installed in the engineroom bilge and the gross volume shall be taken to the flat on which the boilers are installed.
- (4) In machinery spaces where main propulsion internal combustion machinery is installed, the number of pounds of carbon dioxide required shall be equal to the gross volume of the space taken to the under side of the